

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions of claims in the application:

Listing of Claims:

1. (currently amended) A method for amplifying adenosine triphosphate ATP comprising: allowing a fusion protein that has a polyphosphate kinase and an adenylate kinase in this order from the N-terminal ~~and that has been subjected to a treatment for removing ADP~~ to act on a mixture containing adenosine triphosphate ATP, adenosine monophosphate AMP, and a polyphosphate compound thereby amplifying adenosine triphosphate in the mixture,

wherein the fusion protein has been subjected to an apyrase treatment and a pyrophosphate treatment so as to remove adenosine diphosphate bound to the fusion protein.

2. (canceled)

3. (currently amended) A method for detecting adenosine triphosphate ATP comprising:

allowing a fusion protein that has a polyphosphate kinase and an adenylate kinase in this order from the N-terminal ~~and that has been subjected to a treatment for removing ADP~~ to act on a mixture of adenosine triphosphate ATP, adenosine monophosphate AMP, and a polyphosphate compound ~~to amplify ATP~~ thereby amplifying adenosine triphosphate in the mixture; and

detecting the amplified adenosine triphosphate, ATP

wherein the fusion protein has been subjected to an apyrase treatment and a pyrophosphate treatment so as to remove adenosine diphosphate bound to the fusion protein.

4. (canceled)

5. (currently amended) A method for rapidly detecting the presence of a microorganism comprising:

treating a sample containing a microorganism to prepare a sample containing adenosine triphosphate ATP;

adding the sample containing adenosine triphosphate ATP to an adenosine triphosphate ATP amplification system to amplify ATP thereby amplifying adenosine triphosphate in the sample; and

detecting the amplified adenosine triphosphate; and ATP;

detecting the presence of the microorganism by the presence of the detected adenosine triphosphate.

wherein the adenosine triphosphate ATP amplification system comprises adenosine monophosphate AMP, a polyphosphate compound, and a fusion protein that has a polyphosphate kinase and an adenylate kinase in this order from the N-terminal and that has been subjected to a treatment for removing ADP.

wherein the fusion protein has been subjected to an apyrase treatment and a pyrophosphate treatment so as to remove adenosine diphosphate bound to the fusion protein.

6. (currently amended) A kit for rapidly detecting the presence of a microorganism, comprising an adenosine triphosphate ATP amplification reagent containing adenosine monophosphate AMP, a polyphosphate compound, and a fusion protein that has a polyphosphate kinase and an adenylate kinase in this order from the N-terminal and that has been subjected to a treatment for removing ADP; and an adenosine triphosphate ATP detection reagent for detecting adenosine triphosphate ATP

wherein the fusion protein has been subjected to an apyrase treatment and a pyrophosphate treatment so as to remove adenosine diphosphate bound to the fusion protein.

7. (original) The kit of claim 6, further comprising a cell lysis reagent.

8. (canceled)

9. (currently amended) A fusion protein that has a polyphosphate kinase and an adenylate kinase in this order from the N-terminal and that has been subjected to an apyrase treatment and a pyrophosphate treatment so as to remove adenosine diphosphate bound to the fusion protein ~~a treatment for removing ADP.~~

10. (canceled)